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Personal information

Name / Surname	**Greta Goracci**
Professional e-mail	greta.goracci@unibz.it

Contact information

Faculty of Economics and Management
BZ I – 3.06
Universitätsplatz 1 - piazza Università, 1
39100
Bozen-Bolzano

Present appointment

Senior assistant professor (fixed-term) – RTDB
December 2023 – today

Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
SSD	SECS-P/05

Past appointment

Junior assistant professor (fixed-term) – RTDA
October 2021 – December 2023

Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
SSD	SECS-S/01

Education

National Scientific Qualification as Associate Professor
13/A5 - Econometrics
05/06/2023 – 05/06/2034

PhD in Statistics (with grant)

Cycle	XXXI
Date	April 9, 2019
Institution	University of Bologna, Department of Statistical Sciences
Title	Threshold Autoregressive Moving-Average models: probabilistic structure, statistical aspects and applications.
Supervisor	Prof. Simone Giannerini
External Supervisors	Prof. Kung-Sik Chan & Prof. Howell Tong
Evaluation	Ottimo

Second level degree in Statistical, Financial and Actuarial sciences

Date	June 9, 2015
Institution	University of Bologna, Department of Statistical Sciences (Campus of Rimini)
Title	A probabilistic analysis of dichotomic classes derived from a mathematical model of the genetic code.
Subject	Stochastic processes
Supervisor	Prof. Simone Giannerini
Evaluation	110/110 *cum laude*

First level degree in Mathematics

Date	July 18, 2013
Institution	University of Perugia, Department of mathematics and computer science
Title	The principle of arbitrage in complete and incomplete markets.
Subject	Probability
Supervisor	Prof. Giuliana Regoli
Evaluation	110/110 *cum laude*

High school degree

Date	2010
Institution	Liceo Scientifico Giuseppe Mazzatinti
Evaluation	100/100 *cum laude*

Training

Science slam training

October 2022

Greta Goracci has been selected for a special coaching dedicated to training for the Science Slam in Bozen

Leadership training

September 2022

Greta Goracci has been selected for a special workshop dedicated to training leadership positions, organized by COST Association (European Cooperation in Science and Technology). Her travel and accommodation expenses have been covered by COST Association

Professional experience

Research fellowship

From – to	November 2020 – October 2021
Academic Institution	University of Bologna, Department of Statistical Sciences
Academic level	Post Doc
Project	Threshold Autoregressive Moving-Average models: probabilistic structure and inferential problems.
Subject area	Time series analysis & econometrics
Supervisor	Prof. Simone Giannerini
External Supervisors	Prof. Anders Rahbek & Prof. Howell Tong

• Explore the connections between the theory of stochastic stability of Markov chains and nonlinear time series models with particular emphasis on threshold models • Develop tests for nonlinearity that compare linear ARMA specifications against TARMA models • Study bootstrap inference within the TARMA framework

Research fellowship

From – to	November 2019 – October 2020
Academic Institution	University of Bologna, Department of Statistical Sciences
Academic level	Post Doc
Project	Probabilistic aspects and statistical inference for Threshold Autoregressive Moving-Average models.
Subject area	Time series analysis & econometrics
Supervisor	Prof. Simone Giannerini
External Supervisors	Prof. Howell Tong

• Develop a test for a linear ARMA model against TARMA model • Study the continuous-time extension of TARMA models • Study possible practical applications of TARMA models

Research fellowship

From – to	November 2018 – October 2019
Academic Institution	University of Bologna, Department of Statistical Sciences
Academic level	Post Doc
Project	Threshold Autoregressive Moving-Average models: probabilistic structure, statistical aspects and applications.
Subject area	Time series analysis & econometrics
Supervisor	Prof. Simone Giannerini
External Supervisors	Prof. Kung-Sik Chan & Prof. Howell Tong

• Study the probabilistic structure of TARMA models with emphasis on its stationary distribution • Face the problem of inference for TARMA models • Study possible application of TARMA model in different fields

Research topics

My main research interests concern mathematical statistics, econometrics and probability theory. I have been building a strong theoretical background in the key areas of mathematical statistics. In particular, I have been dealing both with probabilistic and statistical issues in univariate and multivariate time series analysis and categorical data analysis. I have been studying both standard asymptotic theory and bootstrap theory. This allowed me to have fruitful collaborations not only with statisticians and econometricians but also with experts of different disciplines such as economists, physicists, mathematicians and molecular biologists. I have deployed my expertise to design methods to analyse different real word phenomena. See below for details.

- **Non-linear time series**
  - Probabilistic structure of stochastic difference equations
  - Asymptotic theory
  - Threshold Autoregressive Moving-average models
  - Bootstrap inference in time series analysis
  - Robust inference in time series analysis
  - Threshold diffusion processes
  - Model selection
- **Asymptotic theory for categorical data**
  - Small sample asymptotics for goodness-of-fit tests
- **Mathematical and statistical models for the genetic code**
  - Non-power representation systems and the genetic code
  - Circular codes in translation

Co-authors:

1. **Angelini Francesco:** University of Bologna, Department of Statistical Sciences
2. **Castellani Massimiliano:** University of Bologna, Department of Statistical Sciences
3. **Chan Kung-Sik:** University of Iowa, Department of Statistics and Actuarial Sciences
4. **Danielli Alberto:** University of Bologna, Department of Pharmacy and Biotechnology
5. **Diaz Rubio Gery Andres:** University of Bologna, Department of Statistical Sciences
6. **Ferrari Davide:** University of Bolzano, Faculty of Economics and Management
7. **Giannerini Simone:** University of Bologna, Department of Statistical Sciences
8. **Gonzalez Diego Luis:** CNR-IMM Bologna
9. **Rahbek Anders:** University of Copenhagen, Department of Economics
10. **Ravazzolo Francesco:** University of Bolzano, Faculty of Economics and Management
11. **Tong Howell:** University of Electronic Science and Technology, Tsinghua University and London School of Economics and Political Science

Research grants

Funding body	COST (European Cooperation in Science and Technology)
Position	**Grant Holder Scientific Representative & Management Committee Member**
From – to	October 2022 – October 2026
Project	CA21169 - Information, Coding, and Biological Function: the Dynamics of Life (DYNALIFE)
Grant	≈ 600000€

Funding body	Free University of Bozen/Bolzano
Position	**Principal Investigator**
From – to	December 2021 – December 2023
Institution	Free University of Bozen/Bolzano, Faculty of Economics and Management
Project	Threshold Autoregressive Moving-Average models in ECONomics (TARMAECON)
Grant	10000€

Funding body	Free University of Bozen/Bolzano
Position	**Principal Investigator**
From – to	October 2021 – August 2022
Institution	Free University of Bozen/Bolzano, Faculty of Economics and Management
Project	Efficient statistical analysis of mixed-type data with applications to business economics and epidemiology
Grant	8000€

Funding body	*COST action CA17120*
Description	Greta Goracci obtained **funds for a scientific visiting**
From – to	September 2020 – October 2020
Institution	University of Copenhagen, Department of Economics
Project	Bootstrap inference for threshold models in time series analysis
Supervisor	Prof. Anders Rahbek
Grant	3500€

Funding body	*JSPS Kakenhi Kiban(S) (18H05290) (M.Taniguchi)*
Description	Greta Goracci obtained **funds from Waseda University to organize the workshop** "*Bolzano-Waseda Workshop on Statistics & Time Series Analysis*"
Grant	1500000 Japanese Yen (circa 11000€)

Research visits

Visiting Scholar

Date	May 2023 (1 week)
Institution	ESSEC Business School (Cergy, Ile-de-France, France)
	Travel and accommodation expenses have been covered by the ESSEC Business School

Visiting Scholar

Date	September 2020 – October 2020 (2 months)
Institution	University of Copenhagen, Department of Economics
Project	Bootstrap inference for threshold models in time series analysis
Supervisor	Prof. Anders Rahbek
Grant	3500€

Visiting Scholar

Date: July 2018 – February 2019 (8 months)
Institution: University of Iowa, Department of Statistics and Actuarial Science
Supervisor: Prof. Kung-Sik Chan

Visiting Scholar

Date: October 2016 – September 2017 (12 months)
Institution: University of Iowa, Department of Statistics and Actuarial Science
Supervisor: Prof. Kung-Sik Chan

Publications in scientific journals and books[1]

[P1] Cartwright J.H.E., Čejková J., Fimmel E., Giannerini S., Gonzalez D.L., Goracci G., Grácio C., Houwing-Duistermaat J., Matić D., Mišić N., Mulder F. and Piro O. *"Information, Coding, and Biological Function: the Dynamics of Life."*, **Artificial Life**, *in press*, 2024

[P2] Giannerini S.; Goracci G.; Rahbek A. *"The validity of bootstrap testing in the threshold framework."*, **Journal of Econometrics**, *in press*, 2023, DOI number:10.1016/j.jeconom.2023.01.004, https://doi.org/10.1016/j.jeconom.2023.01.004 [Scientific article]

[P3] Giannerini S. ; Goracci G. *"Entropy Based Tests for Complex Dependence in Economic and Financial Time Series with the R Package tseriesEntropy."*, **Mathematics**, 2023, 11(3), DOI number:10.3390/math11030757 https://www.mdpi.com/2227-7390/11/3/757 [Scientific article]

[P4] Chan K.-S.; Giannerini S.; Goracci G.; Tong H. *"Testing for Threshold Regulation in Presence of Measurement Error."* , **Statistica Sinica**, 2023, 34(3), DOI number:doi:10.5705/ss.202022.0125 [Scientific article]

[P5] Goracci G.; Giannerini S.; Chan K.-S. Tong H. *"Testing for threshold effects in the TARMA framework."*, **Statistica Sinica**, 2023, 33(3), pp. 1879 - 1901, DOI number: 10.5705/ss.202021.0120, https://doi.org/10.5705/ss.202021.0120 [Scientific article]

[P6] Giannerini S.; Gonzalez D. L.; Goracci G.; Danielli A. *" A role for circular codes properties in translation."*, **Scientific Reports**, 2021, 11, pp. 1 - 15, https://doi.org/10.1038/s41598-021-87534-y [Scientific article]

[P7] Goracci G. *"An empirical study on the parsimony and descriptive power of TARMA models."*, **Statistical Methods & Applications**, 2021, 30(1), pp. 109 - 137, https://doi.org/10.1007/s10260-020-00516-8 [Scientific article]

[P8] Goracci G. *"Revisiting the Canadian lynx time series analysis through TARMA models."*, **Statistica**, 2020, 80(4), pp. 357 - 394 https://doi.org/10.6092/issn.1973-2201/11478 [Scientific article]

[P9] Chan K.-S.; Goracci G. *"On the Ergodicity of First-Order Threshold Autoregressive Moving-Average Processes"*, **Journal of Time Series Analysis**, 2019, 40(2), pp. 256 - 264,https://doi.org/10.1111/jtsa.12440 [Scientific article]

[1] The label in orange indicates a publication in a journal classified as A by ANVUR (Area 13/A5 – Econometrics).

Refereed conference proceedings

[CP1] Giannerini S.; Goracci G. *"A note on testing for threshold non-linearity in presence of heteroskedasticity in time series."*, in: PROCEEDINGS of the 51st scientific meeting of the Italian Statistical Society, 2022, pp. 2058 - 2063 (atti di: 51st scientific meeting of the Italian Statistical Society, Università degli studi della Campania Luigi Vanvitelli, Caserta, 22 June – 24 June 2022) [Contribution to conference proceedings]

[CP2] Diaz Rubio G.A.; Giannerini S.; Goracci G. *"On the asymptotic mean-squared prediction error for multivariate time series."*, in: PROCEEDINGS of the 50th scientific meeting of the Italian Statistical Society, 2021, pp. 1599 - 1604 (atti di: 50th scientific meeting of the Italian Statistical Society, Pisa, June 21 – June 25, 2021) [Contribution to conference proceedings]

[CP3] Giannerini S.; Goracci G. *"Asymptotics and power of entropy based tests of dependence for categorical data."*, in: PROCEEDINGS of the 48th scientific meeting of the Italian Statistical Society, 2016, pp. 1 - 6 (atti di: 48th scientific meeting of the Italian Statistical Society, Salerno, June 8 – June 10, 2016) [Contribution to conference proceedings]

Abstracts

[A1] Giannerini S.; Gonzalez D. L.; Goracci G.*"Dichotomic Classes and Entropy Optimization in Coding Sequences."*, COST Action CA21169 DYNALIFE, *80, 70, 20 Conference: Towards Excellence and Convergence Research in Theoretical Biology* book of abstracts, 2023, pp. 21 - 21, Venice, May 02 – May 04, 2023 [Abstract]

[A2] Giannerini S.; Gonzalez D. L.; Goracci G.*"Dichotomic Classes and Entropy Optimization in Coding Sequences."*, COST Action CA17120 CHEMOBRIONICS 30/80, book of abstracts, 2022, pp. 11 - 11 University of Pisa, September 5 – September 7, 2022 [Abstract]

[A3] Giannerini S.; Goracci G.; Rahbek A. *"The validity of bootstrap testing in the threshold framework."*, IMS Annual Meeting – Probability and Statistics, book of abstracts, 2022, pp. 54 - 55 London school of Economics and Political Science, June 27 – June 30, 2022 [Abstract]

[A4] Goracci G. *"On the ergodicity of first-order threshold autoregressive moving-average processes."*, in: THIRD ITALIAN MEETING ON PROBABILITY AND MATHEMATICAL STATISTICS, book of abstracts, 2022, pp. 119 - 119, University of Bologna, 13 June – 16 June 2022 [Abstract]

[A5] Giannerini S.; Goracci G.; Anders Rahbek *"The validity of bootstrap testing in the threshold framework."*, in: MATHEMATICAL AND STATISTICAL METHODS FOR ACTUARIAL SCIENCES AND FINANCE - MAF 2022, book of abstracts, 2022, pp. 104 - 104, University of Salerno, 20 April – 22 April 2022 [Abstract]

[A6] Giannerini S.; Danielli A.; Gonzalez D. L.; Goracci G. *"A role for circular code properties in translation."*, in: Code biology 2021, book of abstracts, 2021, pp. 28 - 28 (atti di: Code Biology 2021, Lužnica 31 August – 4 September 2021) [Abstract]

[A7] Gonzalez D. L.; Boulay J.Y.; Giannerini S.; Goracci G. *"Mathematical regularities in the genetic code: a unifying view based on symmetry and group theory."*, in: Code biology 2021, book of abstracts, 2021, pp. 7 - 7 (atti di: Code Biology 2021, Lužnica 31 August – 4 September 2021) [Abstract]

[A8] Giannerini S.; Gonzalez D. L.; Goracci G. *"Evolution and Degeneracy in the Genetic Code."*, in: Code biology 2019, book of abstracts, 2019, pp. 40 - 40 (atti di: Code Biology 2019, Friedrichsdorf, 3 - 7 June 2019) [Abstract]

[A9] Goracci G.; Giannerini S.; Gonzalez D. L. *"Dichotomic Classes and Entropy Optimization in Coding Sequences."*, in: Code biology 2018, book of abstracts, 2018, pp. 34 - 34 (atti di: Code Biology 2018, Granada, 5 - 9 June 2018) [Abstract]

[A10] Giannerini S.; Goracci G. *"Small Sample Asymptotics for Multinomial Goodness of Fit Tests."*, in: IMPS 2017, book of abstracts, 2017, pp. 25 - 25 (atti di: International Meeting of the Psychometric Society 2017, Zurigo, 17 - 21 July 2017) [Abstract]

[A11] Giannerini S.; Goracci G. *" Asymptotics and power of entropy based tests of dependence for categorical data."*, in: CompStat 2016, book of abstracts, 2016, pp. 32 - 32 (atti di: 22nd International Conference on Computational Statistics, Oviedo, 23-26 August 2016) [Abstract]

Working Papers and Technical Reports

[WP1] Goracci G.; Giannerini S.; D. Ferrari; Francesco Ravazzolo *"Robust estimation for threshold autoregressive moving-average models"*, **under revision**, https://arxiv.org/abs/2211.08205

[WP2] Angelini F.; Castellani M.; Giannerini S.; Goracci G. *"Testing for Threshold Effects in Presence of Heteroskedasticity and Measurement Error with an application to Italian Strikes."*, **submitted**, https://arxiv.org/abs/2308.00444

[WP3] Diaz Rubio G.A.; Giannerini S.; Goracci G. *"A multivariate extension of the Misspecification-Resistant Information Criterion."*, https://arxiv.org/abs/2202.09225

[WP4] Ferrari D.; Goracci G.; Papagni F. *"Bias-reducing penalization for the Whittle likelihood."*

[WP5] Diaz Rubio G.A.; Angelini F.; Castellani M.; Giannerini S.; Goracci G. *"On home advantage with in-game variables from commentary data in the Italian Serie A."*

[WP6] Goracci G.; Giannerini S.; Rahbek A. *"A bootstrap diagnostic test against non-linear alternatives for time series models."*

[WP7] Goracci G.; Giannerini S.; Tong H. *"Markov Chains and the probabilistic structure of non-linear time series models."*

[WP8] Diaz Rubio G.A.; Giannerini S.; Goracci G. *"Model selection via information and prediction criteria: a survey."*

[WP9] Giannerini S.; Goracci G. *" Small Sample Asymptotics for Multinomial Goodness of Fit Tests."*

[WP10] Giannerini S.; Gonzalez D. L.; Goracci G. *"Dichotomic Classes and Entropy Optimization in Coding Sequences."*

Selected presentations[2]

[C1] [3] *“Robust estimation for threshold autoregressive moving-average models”*, Complex time series analysis: high-dimensionality, change-points, forecasting and causality, Tsinghua Sanya International Mathematics Forum, Sanya, China, January 3 - January 7, 2024 **invited talk**

[C2] *“Robust estimation for threshold autoregressive moving-average models”*, 2ndBergamo Workshop in Econometrics and Statistics, University of Bergamo, September 7 - September 8, 2023

[C3] *“A note on testing for threshold non-linearity in presence of heteroskedasticity in time series.”*, 9th International conference on Time Series and Forecasting, Gran Canaria, July 12 – July 14, 2023

[C4] *“Testing for Threshold Effects in Presence of Volatility and Measurement Error: The Case of Italian Strikes.”*, 9th Annual Conference of the International Association for Applied Econometrics (IAAE), BI Norwegian Business School, Oslo, June 27 – June 30, 2023

[C5] *“Dichotomic Classes and Entropy Optimization in Coding Sequences.”*, COST Action CA21169 DYNALIFE, *80, 70, 20 Conference: Towards Excellence and Convergence Research in Theoretical Biology*, Aula Magna Silvio Trentin, Ca’ Dolfin, Venice, May 02 – May 04, 2023 **invited talk**

[C6] *“Robust estimation for threshold autoregressive moving-average models”*, Bolzano-Waseda Workshop on Statistics & Time Series Analysis, Hotel Oswald Wolkenstein in Gröden – Selva di Val Gardena, April 01 – April 03, 2023 **invited talk**

[C7] *“The validity of bootstrap testing in the threshold framework with an application to climate change”*, Kanazawa workshop on time series analysis, Japan, February 10, 2023 **invited talk**

[C8] *“Robust estimation for Threshold Autoregressive Moving-Average models”*, Waseda University workshop on time series analysis, Tokyo, Japan, February 07, 2023 **invited talk**

[C9] *“Robust estimation for threshold autoregressive moving-average models”*, BOLOGNA - WASEDA TIME SERIES WORKSHOP, Accademia delle Scienze (Bologna), 8 October – 9 October 2022 **invited talk**

[C10] *“A note on testing for threshold non-linearity in presence of heteroskedasticity in time series.”*, 51st scientific meeting of the Italian Statistical Society, Università degli studi della Campania Luigi Vanvitelli, Caserta, 22 June – 24 June 2022

[C11] *“On the ergodicity of first-order threshold autoregressive moving-average processes.”*, Third Italian Meeting on Probability and Mathematical Statistics, University of Bologna, 13 June – 16 June 2022

[C12] *“The validity of bootstrap testing in the threshold framework.”*, Vienna–Copenhagen Conference on Financial Econometrics, University of Copenhagen, 2 June – 4 June 2022

[C13] *“The validity of bootstrap testing in the threshold framework.”*, DATA ANALYTICS FOR BUSINESS workshop, University of Verona, 24 May – 25 May 2022 **invited talk**

[C14] *“The validity of bootstrap testing in the threshold framework.”*, 10th International Hybrid Conference on MATHEMATICAL AND STATISTICAL METHODS FOR ACTUARIAL SCIENCES AND FINANCE (MAF22), University of Salerno, 20 April – 22 April 2022

[2] Greta Goracci is the presenter. The green color indicates that the invitation covered both travel and accommodation expenses.
[3] The invitation covered only the accommodation expenses

[C15] *"A Multivariate Extension of the Misspecification Resistant Information Criterion."*, 3rd Italian Workshop of Econometrics and Empirical Economics (IWEEE), Rimini Campus - University of Bologna, 20-21 January 2022 (*poster*)

[C16] *"Testing for threshold effects in the TARMA framework"*, 7th Rimini Center for Economic Analysis (RCEA) Workshop, 25 - 26 June 2021 **invited talk**

[C17] *"Tests for threshold effects in the ARMA framework"*, eMAF2020, 18 - 22 - 25 September 2020 **invited talk**

[C18] *"Threshold Autoregressive Moving-Average models: probabilistic structure, statistical aspects and applications"*, StaTalk2019, Bologna, Department of Statistical Sciences, March 29, 2019.

[C19] *"Dichotomic Classes and Entropy Optimization in Coding Sequences."*, Code Biology 2018, Granada, 5 - 9 June, 2018

[C20] *" Testing for Unit-root Non-stationarity against Threshold Stationarity"*, 2017 NBER-NSF Time Series Conference, Kellogg School of Management, Evanston, IL, September 8 – 9, 2017 (*poster*)

[C21] *" Asymptotics and power of entropy based tests of dependence for categorical data."*, 48th scientific meeting of the Italian Statistical Society, Università degli studi di Salerno Fisciano, Salerno, 8 – 10, June 2016, **invited talk**

Invited seminars[4]

[S1] *"Threshold Autoregressive moving-average models: probabilistic properties and econometric developments for finance"*, ESSEC Business School, Cergy, France, May 10, 2023 https://crear.essec.edu/crear-events/working-group-on-risk/meetings-2022-2023

[S2] *"Threshold Autoregressive moving-average models: probabilistic properties and econometric developments for finance"*, Cournot seminar of the Université de Strasbourg , France, September 29, 2023

Dissemination and Press coverage

- The article *"A role for circular code properties in translation."* has been mentioned in different press releases, some of which are mentioned below:
  - Unibo Magazine: https://magazine.unibo.it/archivio/2021/05/31/la-teoria-dei-codici-in-aiuto-delle-biotecnologie
  - CNR: https://www.cnr.it/it/comunicato-stampa/10326
  - Le Scienze: https://www.lescienze.it/news/2021/05/31/news/la_teoria_dei_codici_in_aiuto_delle_biotecnologie-4935716/

[4] The green color indicates that the invitation covered both travel and accommodation expenses.

Software Project

[SP1] **tseriesTARMA**: Analysis of Nonlinear Time Series Through TARMA Models

Description: R package with routines for nonlinear time series analysis based on Threshold Autoregressive Moving Average models. It provides functions and methods for: TARMA model fitting and forecasting, tests for threshold effects, unit-root tests based on TARMA models.

Authors: Simone Giannerini, Greta Goracci

Status: published

URL: https://cran.r-project.org/package=tseriesTARMA

Membership

- International Association for Applied Econometrics (IAAE), 2023 – today
- Italian Econometric Association (SIDE), 2021 – today
- Institute of Mathematical Statistics (IMS), 2022 – today
- Italian Statistical Society (SIS), socio ordinario, 2021 – today
- Bernoulli Society, 2022 – today
- Econometric Society 2019 – 2020; 2022 – today

Involvement in European projects

Project: **COST Action CA17120 - Chemobrionics (CBRIO)**
supported by the EU Framework Programme Horizon 2020
http://www.chemobrionics.eu/

Position: Management Committee (substitute)

Date: October 2018 - October 2022

Project: **COST Action CA21169 - Information, Coding, and Biological Function: the Dynamics of Life (DYNALIFE)**
https://www.cost.eu/actions/CA21169/

Position: Management Committee; GH Scientific Representative

Date: September 2022 - September 2026

Peer-reviewing activity

- Journal of Econometrics
- Statistica
- Journal of Computational and Applied Mathematics
- Econometrics and Statistics
- Computational Statistics
- Journal of Statistical Planning and Inference
- Econometrics
- Statistical Papers
- Journal of Time Series Analysis

Organization of scientific events

- **Member of the organizing committee for the event:** *4th Italian Workshop of Econometrics and Empirical Economics: Climate and Energy Econometrics*, Bolzano – Bozen, January 25 – January 26, 2024, *80 participants* https://www.side-iea.it/events/conferences/4th-italian-workshop-econometrics-and-empirical-economics-iweee2024
- **Member of the scientific committee for the event:***Interdisciplinary DYNALIFE Workshop*", Parkhotel Luna Mondschein, Bolzano – Bozen, October 26 – October 28, 2023, *13 participants* https://www.dynalife.eu/bolzano-2023
- **Member of the scientific and organizing committee for the event:** "*80, 70, 20 Conference: Towards Excellence and Convergence Research in Theoretical Biology*", Aula Magna Silvio Trentin, Ca' Dolfin, Venice, May 2 – May 4, 2023, *65 participants* https://www.dynalife.eu/venice
- **Organizer of the event:** "*Bolzano-Waseda Workshop on Statistics & Time Series Analysis*", Hotel Oswald Wolkenstein in Gröden – Selva di Val Gardena, April 01 – April 03, 2023, *13 participants*
- **Organizer of the event** "*Workshop on Statistical Learning and Econometrics*", Free University of Bozen-Bolzano, 12 December 12 – December 13, 2022, *16 participants*
- **Organizer and Chair of the Topic Contributed Session:** *Advances in Time Series Analysis*, 2022 IMS Annual Meeting – Probability and Statistics, London school of Economics and Political Science, June 27 — June 30, 2022. Speakers: Kung-Sik Chan, Haeran Cho, Simone Giannerini, Lorenzo Trapani

Academic teaching

Lecturer

Class	**Introduction to nonlinear time series**
Academic year	2021/2022 (10h); 2022/2023 (12h)
Degree programme	**PhD programme** in Statistics https://phd.unibo.it/statistics/en
Academic Institution	University of Bologna, Department of Statistical Sciences
Language	English
Contents	• Probabilistic structure of nonlinear time series models • Markov chain theory • Inference in time series analysis in presence of nuisance parameters • Bootstrap inference in time series analysis • Threshold models

Lecturer

Class	**Applied statistics for accounting and finance**
Academic year	2021/2022 (36h); 2022/2023 (36h)
Degree programme	**Master** in Accounting and Finance
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
SSD	SECS-S/01
Language	English
Contents	• Descriptive statistics • Fundamentals of probability • Random variables and probability distributions • Point estimation • Interval estimation • Hypothesis testing • Linear regression model • time series analysis

	Lecturer
Class	**Financial Econometrics**
Academic year	2023/2024 (36h)
Degree programme	**Master** in Accounting and Finance and **Master** in Data Analytics for Economics and Management
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
SSD	SECS-P/05
Language	English
Contents	• Models and methods for predicting the level of future returns • ARCH and GARCH models • Unit-root tests • Tests for non-linearity • Introduction to non-linear models: the class of threshold models

	Lecturer
Class	**Econometrics for PPE**
Academic year	2021/2022 (28h); 2022/2023 (28h); 2023/2024 (52h)
Degree programme	**Bachelor** in Economics and Social Sciences
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
SSD	SECS-P/05
Language	English
Contents	• Linear regression model • Stochastic processes ARMA models • Forecasting with ARMA models • Tests for ARCH effects • ARCH/GARCH models

	Lecturer
Class	**Econometrics for Finance**
Academic year	2022/2023 (36h); 2023/2024 (36h)
Degree programme	**Bachelor** in Economics and Management
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
SSD	SECS-P/05
Language	English
Contents	• Linear regression model • Stochastic processes • ARMA models • Forecasting with ARMA models • Tests for ARCH effects • ARCH/GARCH models

	Lecturer
Class	**Analisi statistica ed econometrica con R**
	Third mission activity
Academic year	2022/2023 (18h); 2023/2024 (18h)
Degree programme	Studium Generale – stream technology and business
Academic level	**Bachelor** and **Master**
Academic Institution	Free University of Bolzano-Bozen
SSD	SECS-S/01
Language	Italian
Contents	• Objects in R • Descriptive statistics and basic manipulations • Plots and graphic devices • Linear regression analysis wit R • time series analysis with R

	Lecturer
Class	**Statistical Methods for Business Analysis**
Academic year	2021/2022 (6h)
Degree programme	**Master** in Entrepreneurship and Innovation
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
SSD	SECS-S/01
Language	English
Contents	• Linear regression model

	Lecturer
Class	**Statistical Methods for Financial Markets (Metodi statistici per i mercati finanziari)**
Academic year	2018/2019 (30h); 2019/2020 (22h); 2020/2021 (30h); 2021/2022 (25h)
Degree programme	**Bachelor** in Finance, Insurance and Business
Academic Institution	University of Bologna, Department of Statistical Sciences
SSD	SECS-S/01
Language	Italian
Contents	• Forecasting with ARIMA models • Exponential smoothing • Volatility analysis • Tests for ARCH effects • ARCH/GARCH models • Sign Bias tests • EGARCH/TGARCH models • News Impact Curve • Overnight Indicator and Intra-Daily Volatility

	Teaching assistant
Class	Stochastic Processes (Processi stocastici)
Academic Year	2017/2018 (10h); 2018/2019 (30h); 2019/2020 (20h); 2020/2021 (20h)
Degree programme	Second cycle degree programme in Statistical, Financial and Actuarial Sciences
Institution	University of Bologna, Department of Statistical Sciences
SSD	SECS-S/01
Language	Italian
Activity	• Theoretical lessons • Exercises • Preparation and marking of exams

	Teaching assistant
Class	Introductory Statistics
Academic Year	2018/2019 (12h); 2019/2020 (15h); 2020/2021 (30h)
Degree programme	First cycle degree programme in Genomics
Institution	University of Bologna, Department of Pharmacy and Biotechnology
SSD	SECS-S/01
Language	English
Activity	• Theoretical lessons • Exercises • Preparation and marking of exams

	Teaching assistant
Class	Applied Statistics
Academic Year	2017/2018 (10h)
Degree programme	First cycle degree programme in Business Economics
Institution	University of Bologna, Department of Economics
SSD	SECS-S/01
Language	Italian
Activity	• Theoretical lessons • Exercises • Preparation and marking of exams

	Teaching assistant
Class	Probability II
Academic Year	2017/2018 (10h)
Degree programme	First cycle degree programme (L) in Statistical Sciences
Institution	University of Bologna, Department of Statistical Sciences
SSD	SECS-S/01
Language	English
Activity	• Theoretical lessons • Exercises • Preparation and marking of exams

Supervision

	Bachelor supervision
Student	Hedrich Clara Isabelle
Degree programme	Bachelor in Economics and Management
Academic Year	2023/2024
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
SSD	SECS-P/05
Project	Sustainable Investing: Analyzing and Forecasting Performance of Financial Instruments in the Green Economy through Time Series Modeling
Subject area	Econometrics
	Internship academic tutor
Student	Christian Dallago
Academic Year	2023/2024
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
Company:	PRADER BANK AG
	Bachelor supervision
Student	Giulia Guazzieri
Degree programme	Bachelor in Economics and Social Sciences
Academic Year	2022/2023
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
SSD	SECS-P/05
Project	Feed-in Tariff Policy: an empirical analysis investigating fits' side effects on energy consumption and GHG emissions in Germany
Subject area	Time series analysis
	Postgraduate supervision
	in co-supervision with Prof. Simone Giannerini
PhD student	Gery Andres Diaz Rubio
Academic level	PhD in Statistics (XXXIV cycle)
From – to	September 2018 – May 2022
Academic Institution	University of Bologna, Department of Statistical Sciences
Project	Misspecification-Resistant Information Criterion for multivariate time series
Subject area	Multivariate time series & statistical modelling

University services

1.	**Second (voting) member**
	Second (voting) member of the Degree Programme in Economics and Social Sciences (PPE) (L-33).
From – to	September 2023 – today
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
2.	**Committee member**
	Member of the Permanent Selection Committee to evaluate and rank applications on Teaching Contract, Lecturing and Teaching Assistant openings
From – to	April 2022 – today
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
3.	**Committee member**
	Member of the Admission Board to the to the Master Degree Programme in “Data Analytics for Economics and Management”
From – to	2023 – today
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
4.	**Committee member**
	Member of the Selection Committee for the administrative staff supporting the COST Action DYNALIFE
From – to	2022 – today
Academic Institution	Free University of Bolzano-Bozen
5.	**Committee member**
	Member of the Selection Committee of research assistants (Post-doc) in Statistics and related fields
From – to	2023 – today
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
6.	**Seminar organizer**
	Organizer (with Paolo Roberti) of research seminar series for the cluster “Quantitative Methods and Economic Modeling”
From – to	April 2022 – today
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
7.	**Erasmus grade conversion system**
	Responsible person of the sending institution for the Erasmus grade conversion system
From – to	May 2023 – today
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
8.	**Reference lecturer**
	Reference lecturer for Master in Accounting and Finance
Academic Year	2022/2023
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management
9.	**Reference lecturer**
	Reference lecturer for Master in Entrepreneurship and Innovation
Academic Year	2021/2022
Academic Institution	Free University of Bolzano-Bozen, Faculty of Economics and Management

10. **Course tutor**

From – to: September 2014 – September 2015

Academic Institution: University of Bologna, Department of Statistical Sciences

Responsibilities: • Manage the interaction between professors and students • Help in the organization of academic activities

Third mission activities

1. **Studium Generale 2022/23 & 2023/24**

Lecturer for “Analisi statistica ed econometrica con R”

Academic years: 2022/2023 (18h); 2023/2024 (18h)

Degree programme: Studium Generale – stream technology and business

Academic Institution: Free University of Bolzano-Bozen

2. **Le Mille e una Scienza 2022 & 2023**

Participation to the event “Le mille e una scienza”

Project: The Joy of Statistics

Date: November 12, 2022 & November 11, 2023

3. **Bachelor Day 2023**

Participation to the event “Bachelor Day”

Presenter in the Bachelor in Economia, Politica e Etica

Date: November 11, 2023

4. **Science Live. Get Curious!**

Participation to the event “Science Live. Get Curious!”

Project: La cassetta degli attrezzi della statistica

Date: October 06, 2023

5. **JuniorUni**

Thematic workshop for elementary students.

Project: NUMEROLANDIA: trasformiamo i numeri in conoscenza con la probabilità e la statistica

Date: August 30, 2023

6. **Master Evening 2023**

Participation to the event “Master Evening”

Presenter in Data Analytics for Economics and Management

Date: March 2, 2023

7. **School Guidance**

Information and orientation for schools and high-school-students.

Presentation of all UNIBZ bachelor courses

School: High School "Istituto di Istruzione Superiore Raffaele Casimiri" (Gualdo Tadino – PG), 76 participants

Date: February 20, 2023

8. **Thematic Lecture for High School Students**

Information and orientation for schools and high-school-students.

Project: Non puoi fare a meno dell’incertezza, ma può essere tua amica se la capisci: introduzione al calcolo delle probabilità

School: ITE Battisti (Bolzano), 50 participants

Date: January 30, 2023

9. **Science Slam Bolzano**
Participation to the event “Science Slam Bolzano”

Project: La nuova matematica del codice genetico
Date: October 28, 2022

Personal skills and competences

Italian: first language

Other language(s)
Self-assessment
European level(*)

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English(⋆⋆)	C1	C1	C1	C1	C1
Deutsch(⋆⋆⋆)	B1	B1	B1	B1	B1

(*) *Common European Framework of Reference* (CEF) level

(⋆⋆) Certificate of the Language center of the Free University of Bozen-Bolzano
(⋆⋆⋆) ÖSD Zertifikat

Languages & Software: R, LaTeX

Operating Systems: OSX, Windows